

(No Model.)

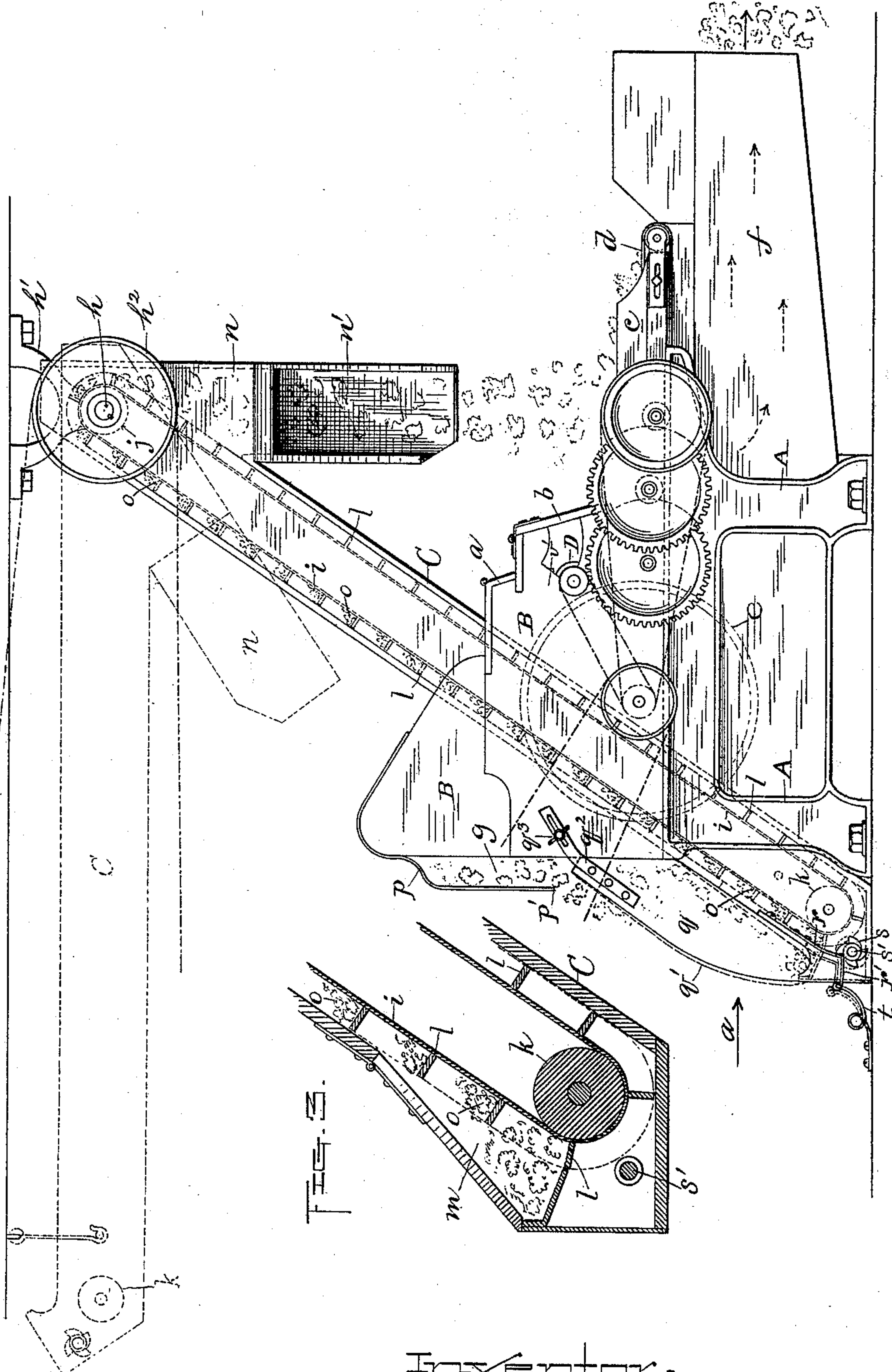
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S. A. PRESCOTT.
PICKER FOR RAGS AND WASTE.

No. 444,672.

Patented Jan. 13, 1891.

FIG. 1.



Witnesses;
Walter B. Nourse,
J. Everett Wilson

Inventor,
Samuel A. Prescott.
By A. A. Barker, Atty

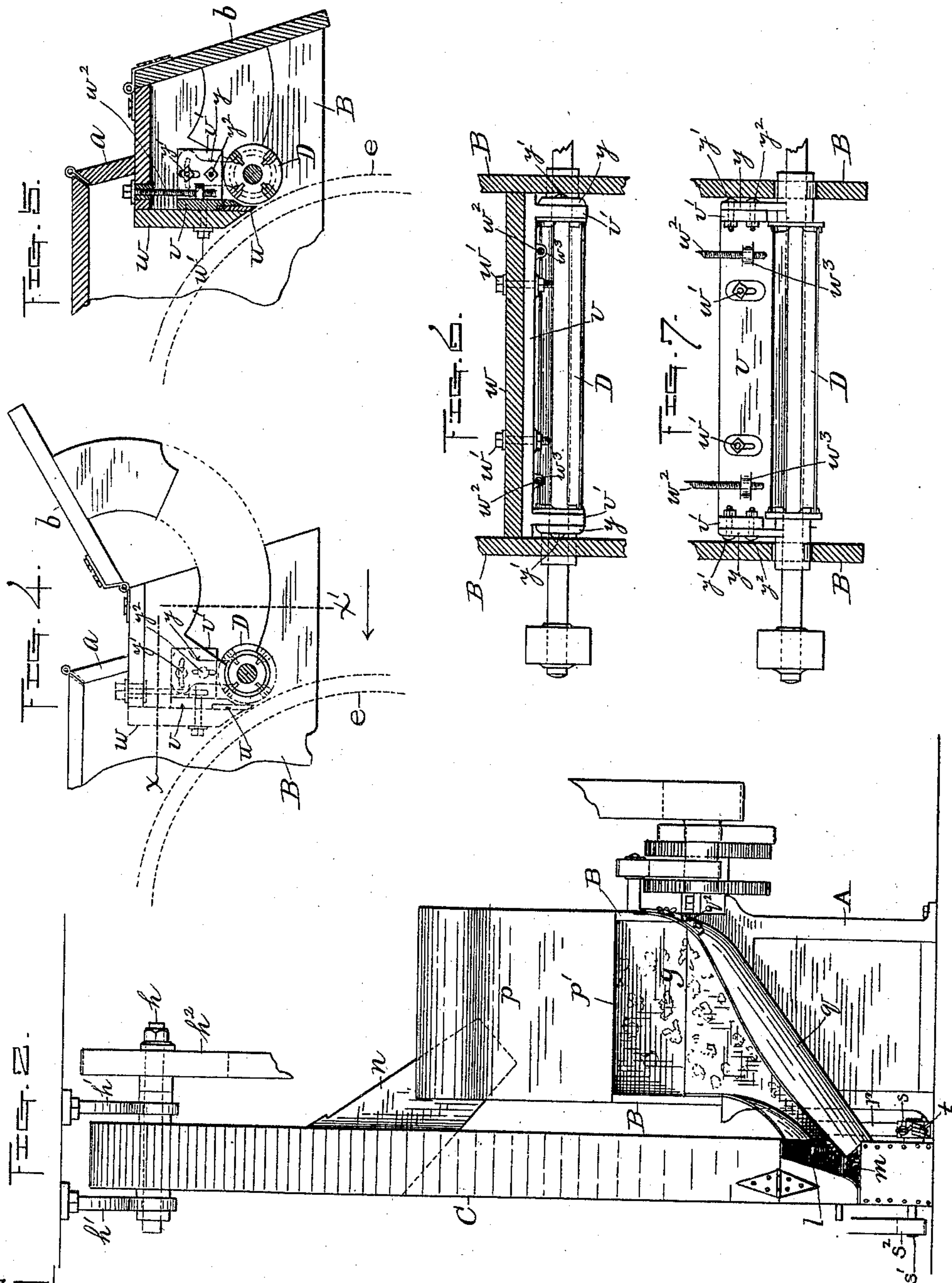
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UNITED STATES PATENT OFFICE.

SAMUEL A. PRESCOTT, OF WILKINSONVILLE, MASSACHUSETTS.

PICKER FOR RAGS AND WASTE.

SPECIFICATION forming part of Letters Patent No. 444,672, dated January 13, 1891.

Application filed January 20, 1890. Serial No. 337,425. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. PRESCOTT, of Wilkesville, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Pickers for Rags and Waste; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents so much of an ordinary picker as is necessary to illustrate my improvements thereon. Fig. 2 is an end view thereof looking in the direction of arrow *a* in Fig. 1. Fig. 3 represents upon an enlarged scale a vertical longitudinal section through the lower end of the elevator of the picker, hereinafter more fully described. All the following figures are also upon the same enlarged scale. Fig. 4 is a side view of so much of the picker as is necessary to illustrate an improvement in the fan attachment, with one of the hinged covers of the picker-casing swung up. Fig. 5 is a vertical longitudinal section through the parts shown in Fig. 4, with said cover swung down or closed. Fig. 6 is a horizontal section taken on line *x*, Fig. 4, looking down upon the fan and its attachments; and Fig. 7 is a vertical section on line *x'*, Fig. 4, looking toward said fan and attachments, as is indicated by the arrow in said figure.

My invention consists in the combination, with an ordinary picker, of an elevator device for automatically conveying the improperly-picked stock, such as rags and waste, which are thrown from the rear of the picker, back into the front end thereof to be repicked or worked over again.

It also consists in an improved construction of the usual fan attachments of the picker, whereby the fan and the usual blade connected therewith may be adjusted to each other before applying them to the picker, and whereby both may be adjusted together to the picker-cylinder, as hereinafter more fully set forth.

To enable others skilled in the art to which my invention appertains to better understand the nature and purpose thereof, I will now proceed to describe it more in detail.

In the drawings, A represents the picker-

frame; B, the top casing provided with the usual hinged covers *a b*.

c represents the sides of the front trough, having the feed-belt *d* at the bottom thereof for feeding in the rags or waste to the picker-cylinder *e*. Said rags or waste, after being properly picked or worked over, pass off, as usual, through the discharge-flue *f*, while those which are not properly picked pass out at the back of the machine, as indicated at *g*. All of said parts, as well as the operating mechanism thereof, being of ordinary well-known construction, need no further description.

My improvement in the mechanism for conveying the improperly-picked rags or waste back into the picker is constructed and arranged as follows: At the back side of the picker and a short distance therefrom is arranged a long box C, which is pivoted at its upper end to a shaft *h* and which rests on the floor at its lower end. Said box is arranged parallel to the side of the picker and at an angle to the floor, the lower end coming just back of the rear end of the picker, while its upper end is in a transverse line with about the center of the supply-trough at the front end of said picker. Within said box is arranged an endless belt *i*, which passes around a driving-pulley *j* at its upper end on the shaft *h* and around a loose or carrying pulley *k* at its lower end. To the outer surface of said endless belt are secured at regular intervals entirely around the same a series of transverse strips *l*, projecting out at or about right angles thereto, and which serve as troughs to carry around the rags or waste when the machine is in use, thus forming an endless elevator similar to those in common use for elevating grain. At the bottom of said elevator an opening *m* is provided to receive the rags or waste to be carried around, while at its upper end it has an inclined chute *n*, having the open end *n'*, said end being extended forward over the picker a sufficient distance to discharge the rags or waste emptied into it from the troughs *o* into the supply-trough previously referred to at the front end of said picker.

The bits of rags or waste which are thrown out of the rear of the picker to be worked over again are guided into the bottom open-

ing m of the elevator by the guard p and trough or chute q . Said guard is fastened over the top of the picker-case B and at the back of the picker projects out a short distance therefrom, the bottom edge p' thereof coming within a short distance of the upper end of the trough q , so that as said bits or particles pass from the picker and strike the under side of said guard they will be sure in falling to strike into said trough. As they drop into the trough they slide down into the bottom of the elevator and are carried around by the various small troughs o thereof and discharged through the inclined chute n into the front end of the picker to be picked or worked over, as previously stated. The discharge of the rags or waste down and out of the trough q is facilitated by combining with the bottom end thereof an automatic device for shaking or imparting short quick vibratory motions thereto, said lower end being unfastened and simply resting in the opening of the elevator, while its upper end is not rigidly fastened, the same being held in place by a suitable strap-iron q^2 , fastened to said end and to the front side of the picker-casing B, preferably, so that the trough may be adjusted by forming a slot in the strap and fastening the same by a set-screw q^3 , as shown in Fig. 1. In this instance I accomplish said result of shaking the bottom of trough q by fastening a downwardly-projecting finger r to the trough, which engages with a ratchet-wheel s , and having its outer extremity extended forward to engage with a spring t , secured to the floor. By this construction (see Fig. 1) it is obvious that as the wheel s rotates its teeth force the bottom of the trough q forward a short distance, as indicated by dotted lines q' , and the back action is produced by the spring t , thus producing the desired forward and back vibratory motions, and in consequence forcing the particles of rags or waste out of the trough and into the bottom of the elevator. The ratchet-wheel s is in this instance secured to a short shaft s' , fitted to turn in the lower end of the elevator and operated by passing a belt over its pulley s^2 , connecting with any suitable and convenient part of the driving mechanism. Said connection is not shown, as it is of no especial importance how said power is connected. Although I prefer to thus construct said shaking device, I reserve the right to make such modifications therein as may be deemed advisable in effecting the same result or to dispense with the same altogether. The various other parts of the elevator may also be modified in this construction without departing from the principle thereof.

The elevator being pivoted, as previously stated, to the shaft h , by disengaging the trough q and other parts at its lower end it may be swung up out of the way and hooked in position, as indicated by dotted lines in Fig. 1, when it is desired to get around the picker to change or renew any of its parts. Said shaft h is fitted to turn in suitable bearings

in the hangers $h' h'$, and has secured thereto the pulley h^2 , through which power may be transmitted to operate the endless belt of the elevator.

My improvement in the fan D and its attachments is as follows: Heretofore the usual blade u between the fan and picker-cylinder e and said fan have been arranged to be adjusted independently and while on the machine, which is a serious objection, not only from the fact that much more time is required in making the adjustment, but said adjustment cannot without considerable care be regulated to a nicety. To obviate these objections is the purpose of this part of my invention. I accomplish the desired result by fastening both the fan and the blade to a frame v , which is in turn fastened to the usual cross-bar w of the picker, and the whole device then adjusted together by means of two vertical bolts, as hereinafter described. The blade is fastened rigidly to the lower back side of the frame v , flush with the back surface thereof, as is shown in Fig. 5, while the fan is adjustably fastened to flanges $v' v'$, projecting forward from said frame v , upwardly-projecting flanges $y y$ being formed on the hubs of the fan, which engage with said projections and are fastened by means of bolts $y' y^2$. Where the upper bolts y' pass through the flanges y the latter are slotted horizontally upon a curve struck from the center of the fan. Therefore the fan and its flanges may be swung forward or back to adjust the fan laterally to the blade and then fastened by turning up the nuts of the bolts y' , the bolts y^2 acting as pivots in making said adjustment. In order that said parts may be adjusted vertically one to the other, the openings for the bolts y^2 in the flanges y are slotted vertically, as are also the openings in the flanges v' for the upper bolts y' . Therefore it is obvious that the fan and blade may be adjusted to each other to a nicety before applying them to the picker, instead of separately on the picker, as usual. The frame, with the adjusted fan and blade thereon, may then be applied to the picker and said frame fastened to the cross-bar w by means of the bolts $w' w'$. The whole may be conveniently adjusted on the machine by means of the vertical adjusting-bolts $w^2 w^2$, which are fitted to turn in threaded openings in the ears $w^3 w^3$, formed on the frame v , and in suitable bearings in the picker-casing B, as is best shown in Fig. 5, vertical slots being formed in said frame v where the holding-bolts $w' w'$ pass through to permit of said vertical adjustment. By thus constructing the fan attachments it is obvious that when the blade and fan are once adjusted to each other, as previously described, the operation of adjusting both to the picker-cylinder is very simple and may be quickly performed, while at the same time the adjustment is more perfect than could be obtained by adjusting the parts separately, as in the usual way.

It will be understood that I do not limit myself to the special way of slotting the flanges v' and y so long as the same result is effected of obtaining a horizontal and vertical adjustment of the fan and the blade to each other before applying said parts to the picker.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination, with an ordinary picker for preparing rags or waste for carding, of an elevator having a series of small troughs on an endless belt moving around continuously, said elevator also having a suitable inlet or
15 opening at its lower end, an inclined discharge-chute at its upper end, a guard arranged over the upper back end of the picker to stop and direct the flying particles of rags or waste downward, and a trough to direct
20 said particles of rags or waste into the bottom of the elevator, whereby those bits or particles not properly picked and thrown out at the rear of the picker may be automatically conveyed to the front end of said picker to
25 be repicked or worked over again, substantially as set forth.

2. The combination of the picker with the elevator C, pivoted at its upper end to the shaft h , so that it may be swung up and fast-
30 ened in an elevated position, also having an inclined chute n at said upper end extending over the front end of said picker and an opening at its lower end to admit the bits of rags or waste to be elevated, the trough q ,
35 fastened at its upper end to the rear end of the picker and its lower end adapted to engage with the bottom of said elevator, also having a shaking device, substantially as de-

scribed, combined with its lower end, and the guard p , secured to the upper rear end of the
40 picker and projecting out and down from said rear end to direct the bits of flying rags or waste downward into said trough q , substantially as and for the purpose set forth.

3. The combination of the rear end of the
45 picker and trough q with the finger r , secured at its upper end to the bottom of said trough and at its lower end engaging with the stationary spring t , the ratchet-wheel s on the driving-shaft s' , and said stationary spring t ,
50 substantially as and for the purpose set forth.

4. The combination of the fan D, having the upturned flanges y y and the blade u , with the frame v , having the flanges v' v' , and holding-bolts y' y^2 , having suitable nuts, sub-
55 stantially as and for the purpose set forth.

5. The combination of the fan D, having the upturned flanges y y , blade u , secured to frame v , said frame v having flanges v' v' and w^3 w^3 , and holding-bolts y' y^2 , provided
60 with suitable nuts, with the cross-bar w , casing B, horizontal holding-bolts w' , provided with suitable nuts, and vertical adjusting-bolts w^3 , substantially as and for the purpose
65 set forth.

6. In a picker for preparing rags or waste for carding, the fan D and blade u , adjust-
ably fastened to a suitable frame adapted to be in turn adjustably fastened in said picker, whereby said fan and blade may be properly
70 adjusted to each other prior to fastening the same in the picker, substantially as set forth.

SAMUEL A. PRESCOTT.

Witnesses:

A. A. BARKER,
W. B. NOURSE.